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DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

DIVISION OF ENVIRONMENTAL PROTECTION

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March 15, 2004
NOTICE OF FINAL DECISION
RECLAMATION PERMIT NO. 0217
Cortez Gold Mines, Inc.

Cortez Mine

The Nevada Division of Environmental Protection (NDEP) has decided to issue Reclamation Permit, No. 0217, for a Mining Project to Cortez Gold Mines, Inc. This permit authorizes Cortez Gold Mines to reclaim the Cortez Mine. This Project is located in Lander County, Nevada. The Division has been provided with an application, in accordance with Nevada Revised Statute (NRS) and Nevada Administrative Code (NAC) 519A to assure the Division that Cortez Gold Mines, Inc. will leave the project site safe, stable, and capable of providing for a productive post-mining land use.

This permit will become final March 26, 2004. The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NAC 519A.415. The appeal must be filed by March 25, 2004 and in accordance with Administrative rules of the Environmental Commission.

The following comments were received during the public comment period in the form of a letter dated December 29, 2003 from the Great Basin Mine Watch (GBMW).

GBMW Comment 1: It is unclear from the application whether or not this is a final permanent closure plan.

Response: Pursuant to the regulations at NAC 519A, the reclamation plan is not intended to be the final permanent closure plan. These are two distinctly different documents and are reviewed under separate authority and focus. The closure plan is required under the NAC 445A regulations.

Note: This notice is for electronic distribution.

GBMW Comment 2: Cortez states in the October 2003 version of the reclamation plan that it does not intend to update the cost estimate to current dollars.

Response: Cortez has provided an updated reclamation cost estimate that incorporates current dollars. The update also includes reductions for work completed and approved by both agencies.

GBMW Comment 3: It is unlikely that the eighteen inches of topsoil proposed to cover all tailings facilities and the heap leach pads will provide adequate medium to establish vegetation cover and an efficient evapo-transpiration cover for these facilities.

Response: The final cover design and thickness will be determined with the development and approval of a final closure plan which may or may not change the cover design and project costs. The information contained in this reclamation plan provided general information to support 18 inches of cover material.

GBMW Comment 4: The potential for acid generation from all components at this site has been overlooked in this application. Is there any existing ANP/AGP data for waste rock, tailings and heap material?

Response: The reclamation regulations at NAC 519A were not designed to address this issue. Rather acid generation potential is addressed under the NAC 445A regulations.

GBMW Comment 5: Sampling of Bioremediation Facility materials will be conducted for three years, and that it has been assumed that the materials will be within the regulatory levels for Total Petroleum Hydrocarbons. Assuming the outcome before monitoring has been initiated, and then developing cost estimates and closure scenarios based upon those assumed outcomes is risky. Closure plans should be based developed based upon actual monitoring results, and the contingencies that may arise when monitoring results show that there are problems that need to be addressed. To do otherwise undermines the integrity of closure and monitoring.

Response: The concerns regarding bioremediation facility materials monitoring and hydrocarbon monitoring is beyond the purview of the NAC 519A regulations but is rather under the regulations at NAC 445A. The comment continues by referencing this as a closure plan. The plan submitted to BMRR is a reclamation plan. The reclamation cos t estimate is based on assumptions and the division reviews the cost estimate to determine that the estimate is reasonably sufficient to conduct the required reclamation.

GBMW Comment 6: What is Cortez planning for the Cortez mine during the years 2005 – 2008? If the mine will not be on Care and Maintenance during this time, what will be its status? Additionally, we would like to restate that since there are no immediate plans to recommence mining at this site, that it should be permanently closed.

Response: The regulations allow operations to remain in temporary closure for several purposes including the presence of additional mineralization and historical fluctuation in the value of the commodity being mined. The reclamation schedule has

been revised to reflect an operation of the mill from 2007 to 2011. In addition, Appendix 13 of the reclamation plan states that a possibility exists that operations may resume at the Cortez mine.

GBMW Comment 7: BMRR should consider requiring Cortez to place a more substantial cover over tailings. A preferable option may be to isolate tailings through the placement of at least two feet of waste rock to minimize the infiltration of water through tailings. The waste rock should be covered with topsoil and revegetated.

Response: See response 3.

GBMW Comment 8: According to the Report on Hydrogeochemical Investigations In Support of Closure of Heap Leach and Tailings Facilities at Cortez Gold Mines, Brown and Caldwell, August 2000, the results of Meteoric Water Mobility Procedure (MWMP) performed upon materials from TA 1-5, tailings from these impoundments could potentially mobilize concentrations of antimony, arsenic, and thallium in excess of Nevada Drinking Water Quality Standards. The results from TA-6 indicated the potential for the mobilization of antimony, arsenic, thallium, aluminum, sulfate, TDS and WAD Cyanide and nitrate in excess of Nevada Primary and Secondary Drinking Water Quality Standards.

Because most of the residual moisture in the tailings facilities is found at depth, an evapo-transpiration cover would do little to facilitate the drying of existing saturated tailings. The same type of cover placed on top of a substantial waste rock barrier could act as an evapo-transpiration cover to prevent or minimize the infiltration of meteoric water while isolating the tailings from further contact with meteoric water not retained or evaporated by the cover. The waste rock cap should then be covered with growth media and revegetated.

Response: The concerns about MWMP results and Nevada Drinking Water Quality Standard exceedances are beyond the scope of the NAC 519A regulations. The final design of the cover of the tailings impoundment will be contained in the Final Permanent Closure Plan for this site. Review and approval of this closure plan will fall under the purview of the Water Pollution Control Closure section of BMRR whose regulations are part of NAC 445. The reclamation plan and cost estimate would be revised, as appropriate, based on the conclusions and assumptions contained in an approved Final Permanent closure plan.

GBMW Comment 9: Cortez plans on regrading tailings impoundments to direct meteoric water off of the impoundment into sedimentation basins. There is a major concern that this will increase the chances for a breach in the impoundment embankment leading to the deposition of tailings materials off of containment.

Response: This comment is outside the purview of the NAC 519A regulations. By leaving the impoundment incapable of storing meteoric fluid, Cortez will be complying with all applicable State regulations including those of the Division of Water Resources. Directing meteoric water off of the impoundment is meant to enhance the stability of the structure.

GBMW Comment 10: Cortez is relying upon successful revegetation of the tailings facilities to ensure that the proposed evapotranspiration cover works as planned, which is unlikely, given its design. If revegetation is unsuccessful on the first attempt, Cortez should be required to make additional attempts until revegetation success is achieved. The bond should include enough money to cover additional revegetation attempts in the event that the first seeding fails to establish a viable plant community upon all tailings impoundments. The revegetation monitoring period should be expanded to realistically assess whether or not revegetation is successful or not. The proposed monitoring period is too short.

Response: Revegetation bond is not released at the time when seeding is completed. By the adopted revegetation guidelines, the revegetation bond is held until the revegetation effort is considered successful. The revegetation guidelines require a minimum of three years of monitoring from the time of planting. This is a minimum monitoring period not a maximum period.

GBMW Comment 11: It is unclear whether or not Tailings Area 1/2/3 impoundment is included in the bond. The application does not give any detail as to whether or not or how the decant towers in TA 1/2/3 will be removed or buried.

Response: On page 37 of the reclamation plan Cortez states that reclamation of Tailings Area 1/2/3 has been incorporated into the cost estimate. The cost estimate contains costs specific to Tailings Area 1/2/3.

GBMW Comment 12: Since Tailings Area 1 is the location of the bioremediation and hydrocarbon remediation facilities, more information should be given upon how closure of these components will occur. The application gives very little information other than to say that these facilities exist and will be coordinated with closure.

Response: This comment is beyond the purview of the NAC 519A regulations but is more appropriately discussed under the NAC 445A regulations.

GBMW Comment 13: For the same reasons stated for TA 1/2/3, it is unclear whether or not TA 4/5 will be bonded.

Response: On page 42 of the reclamation plan, Cortez states that reclamation of Tailings Area 4/5 has been incorporated into the cost estimate. The cost estimate contains costs specific to Tailings Area 4/5.

GBMW Comment 14: The August 31, 2000 Report on Hydrogeologic and Hydrogeochemical Investigations in Support of Closure of Heap Leach and Tailings Facilities at Cortez Gold Mines, By Brown and Caldwell, states that pore pressure dissipation tests in TA 4/5 identified a zone of pore pressure near the northeast water storage reservoir….. The report goes on to state that although this result suggested that there was a leak in the Water Storage Reservoir, that information from other nearby CPT test did not support that. Has BMRR investigated this? Because the Water Storage Reservoir is a key component of the fluid management system, every effort should be made to ensure that it does not leak. The application states that the tailings are relatively dry. Has additional CPT testing been conducted since this report was

published to determine whether tailings at the base are still saturated, and could be sourcing to groundwater?

Response: This comment is beyond the scope of this Reclamation Permit and the regulations at NAC 519A.

GBMW Comment 15: How much spent heap leach ore has been placed upon TA 6? Was the determination made that the spent heap leach ore was chemically stable, as required by Nevada Law?

Response: This comment is beyond the scope of this Reclamation permit and the regulations at NAC 519A. This comment is better addressed in discussion with the NAC 445A regulations.

GBMW Comment 16: BMRR should consider requiring Cortez cover TA 6 and TA 7 with an additional two feet of waste rock before the placement of growth media and revegetation. It is possible that 18 inches of topsoil placed over the top of these impoundments will be insufficient to prevent the infiltration of meteoric water through the tailings and to provide an adequate growth medium for revegetation.

Response: See response to comment 3 above.

GBMW Comment 17: Of serious concern regarding the closure of TA 6 is that the Brown and Caldwell report states that the unlined impoundment likely still contains over 100 million gallons of water poised to leak into the aquifer. The estimated flux of tailings water into the shallow aquifer is estimated to be 21 gallons per minute. This is over 10 million gallons of water per year.

Response: Water leakage issues are addressed by the regulations at NAC 445A.

GBMW Comment 18: We are pleased that Cortez and BMRR are considering a zero discharge scenario for the heap leach pads at the Cortez Mine; however, with respect to the 1.5 foot topsoil cover proposed for the heaps, a more substantial layer should be considered.

Response: See response to comment 3 above.

GBMW Comment 19: If the first attempt fails to establish a viable plant community upon the heaps, additional attempts at reseeding should be made until vegetation can be reestablished to function as designed. The cost estimate should contain allowances for additional revegetation attempts.

Response: See response to comment 10 above.

GBMW Comment 20: The reclamation permit application states that MWMP tests on heap materials indicate that WAD cyanide concentrations are below Nevada drinking water criteria and that pH is in the acceptable range, but gives no information on MWMP results for any other constituents of concern such as sulfate, chloride, nitrate and metals. Cortez goes on to state in the application that since spent heap leach

material is “nearly benign” it will continue to be used for construction and reclamation in the tailings area. Since there is not supporting data in the application, it is difficult to determine whether on not this material is indeed safe.

Response: This comment is beyond the purview of this reclamation permit and the regulations at NAC 519A. This comment would be more appropriately addressed under the requirements of the regulations at NAC 445A.

GBMW Comment 21: The application gives no information on the estimated long-term drainage rate for the East and West heaps, or 91-C heap. What is the current drainage rate for each of the heap leach pads and what are the long term predictions? The East heap leach pad is a known source of groundwater contamination. How is this contamination going to be remediated? Is the contamination from the East heap pad captured in the current remediation well field?

Response: Appendix 13 contains the long-term drain down information. According to Cortez in its revised reclamation plan and cost estimate dated Febraury 2004, the drain down at heap leach pad 91-C is reported flowing at 1.8 gpm; drain down at TA-7 is reported flowing at 31.9 gpm, and the pumpback system contribution is reported flowing at 60 gpm. Also please see pages 47 – 49 of the reclamation plan for further information on reclamation of the heap leach pads. The East heap leach pad is not a suspected source of groundwater contamination.

GBMW Comment 22: The East heap leach pad has contributed to groundwater mounding beneath the compacted clay base. BMRR should require Cortez to implement long term vadose zone monitoring around the East heap leach pad extending at least thirty years into the post closure period.

Response: The NAC 445A Water Pollution Control regulations require a post closure monitoring period that, in practice, can range from 5 to 30 years depending on specific site characteristics. The regulations specify that the post closure monitoring period will not exceed 30 years. Based on the known ground water quality concerns at the site, BMRR is requiring Cortez bond for a 30-year post closure monitoring period.

GBMW Comment 23: It is not clear how the determination will be made whether or not to continue groundwater remediation activities or fluid management. Will active evaporation and groundwater remediation continue for 14 years maximum, or until it is determined that there is no longer a need to carry out active evaporation of fluids? To what standards will groundwater be remediated?

Response: The remediation activities for this site are overseen by the Closure Branch of BMRR under the authority of the Water Pollution Control regulations at NAC 445A. Sheet Q – Long Term Fluid Management Summary contained in the cost estimate states that Brown and Caldwell (technical memorandum dated November 8, 2001) has predicted that TA 6 impacts will no longer exceed MCL’s for constituents that exist below MCL concentrations in background groundwater. This period of long - term fluid management is predicted to be 10 years; 2004 through 2014. However, active evaporation and groundwater remediation will continue until it is determined by the

Closure branch to no longer be needed. Remediation activities will continue to be monitored and adjustments made as necessary.

GBMW Comment 24: The application only allows for a five-year groundwater monitoring period post-closure.

Response: See response to comment number 22.

GBMW Comment 25: The application does not contain any information on exactly where the remediation well field is located.

Response: This comment is beyond the scope of this reclamation permit and the regulations at NAC 519A. This is a Water Pollution Control issue under the regulations at NAC 445A. Figure 2 "Location of Facilities" map contained in the "Water Quality Monitoring Summary Report – Water Pollution Control Permit NEV00023; Cortez Mill #1 site February 2003 report shows the location of the pumpback wells related to this comment.

The following comments are contained in a letter from James Kuipers of the Center for Science in Public Participation dated December 31, 2003. This letter is an attachment to the Great Basin Mine Watch Letter dated December 29, 2003. The comments contained in this letter will be addressed here as a continuation of the GBMW letter comments.

GBMW Comment 26: Consistent with the fundamental intent of mine reclamation and closure regulation and practice required and conducted in most other states and federal jurisdictions, and as required by NRS 445A and NRS 519A, the application should be considered incomplete and a Final Permanent Closure Plan should be developed to address long-term pollution and potential water management and treatment requirements from existing and/or future conditions likely to result from the Cortez Mine on water resources.

Response: NRS 519A does not require a Final Permanent Closure plan as part of the reclamation permit application. This reclamation plan was developed in accordance with Nevada regulations and not based on other states' practices and guidelines.

GBMW Comment 27: If the intention is to provide an Application that is approved in 2003 and will serve for at least three years into the future, it is critical that the estimated costs be escalated to represent current dollars. If existing costs in the estimate are to be used then they should be appropriately and consistently escalated to accurately represent 2003 costs.

Response: See response to comment 2 above.

GBMW Comment 28: The reclamation cost estimate should be recalculated for the anticipated three year renewal period and include an appropriate future inflation factor for those years.

Response: The regulations at NAC 519A.380 require the operator to review the cost estimate to determine if it is still adequate at least every three years after permit issuance. Inflation must be taken into consideration in this evaluation.

GBMW Comment 29: Only activities which have actually been performed prior to this reclamation cost estimate should be assumed as complete. All activities not actually completed should be included in the cost estimate. Assumptions that reclamation is already completed should be verified in the field by NDEP.

Response: BMRR concurs with this comment. This is how the reclamation cost estimate was developed. The reclamation plan identifies and the cost estimate includes costs for the Reclamation Units where work remains to be completed.

GBMW Comment 30: The reclamation plan should include the assumption that suitable cover material will be necessary to provide stability and revegetation success (reclaimed waste rock dumps) and the corresponding costs should be included in the financial assurance estimate.

Response: Page 73 of the reclamation plan Cortez commits to including costs for revegetation of the recontoured waste rock dumps. Revegetation activities include harrowing, and seed application. The current practices Cortez has utilized in conducting concurrent reclamation activities demonstrates the ability to establish vegetation at this site.

GBMW Comment 31: The reclamation plan should include the assumption that suitable cover material will be necessary to provide stability and revegetation success (at the plant site) and the corresponding costs should be included in the financial assurance estimate.

Response: Please see response to comment number 30.

GBMW Comment 32: At a minimum, fencing, in addition to the proposed safety berm, is recommended to ensure public safety and to address potential aspects of state and federal agency liability. The design (and corresponding costs) of the safety berm should be modified to provide for long-term effectiveness.

Response: According to page 62 of the reclamation plan, the berms are planned to be comprised of available site material and is anticipated to be a mixture of surface rock and growth medium that is expected to revegetate rapidly. In addition, Cortez proposes to post warning signs to further ensure public safety. Costs are included in the cost estimate.
Since the majority of the pit disturbance is located on public land, the Federal land manager has reviewed and conceptually approved the current public safety measures.

GBMW Comment 33: The financial assurance estimate should be modified to include the replacement or purchase of all capital equipment items necessary to conduct site operations in the event the company was to file for bankruptcy.

Response: The cost estimate (sheets P and Q) includes capital and maintenance costs for solution inventory reduction, interim fluid management, and long-term fluid management.

GBMW Comment 34: Assumptions based on an as yet developed Closure Plan should not be part of the Application. The predetermined outcome of a supposedly scientifically based study suggests that any results will be comprised or at least heavily influenced by the pre-determined conclusions made in the application.

Response: Once the final closure plan is developed and approved by Water Pollution Control Closure Section, the reclamation plan and cost estimate may need to be revised.

GBMW Comment 35: The financial assurance estimate should be modified to include the replacement or purchase of all capital equipment items necessary to conduct site operations in the event the company was to file for bankruptcy.

Response: Please see response to comment number 33.

GMBW Comment 36: Based on experience at other mine sites, the application should be altered to provide for revegetation monitoring over at least a 10 year period and water resource monitoring over at least a 30 year period.

Response: Please see response to comments 10 and 22.

GBMW Comment 37: Standard and unbiased cost estimation sources of information should be used whenever possible to avoid potential conflicts of interest or potential collusion in contractor quotes.

Response: The operator has revised the cost estimate and has used the Primedia Equipment Rental Blue Book for rental rates and hourly operating costs.

GBMW Comment 38: (Heap and Tailings Drain down) The existing model give the false impression that no leachate will emanate from any of the mine site features once drain down of process solutions is completed. The drain down modeling should be modified to include the impact of meteoric infiltration and percolation through the mine site features and estimate the long-term rates of leachate production that could impact groundwater quality.

Response: Appendix 13 of the reclamation plan addresses the drain down modeling effort for the site. Atmospheric influence was not considered in the modeling effort for this site. The model is based on the assumption that each facility will be regarded, covered, and revegetated as part of reclamation and closure. With completion of these activities it is expected that meteoric influences to the heap leach pads and tailings impoundment will be negligible. In addition, the East and West leach pads are considered to be dry.

GBMW Comment 39: Most of the equipment productivity estimates apply a correction factor of 0.75 for an “average” operator. However, this factor is not

consistently applied to all the equipment productivity estimates. The productivity estimates for the equipment other than bulldozers (wheel loader, haul truck, scraper, etc.) do not include productivity estimates. The NDEP should further examine the various factors which have been stated for equipment productivity in the reclamation cost estimate.

Response: BMRR has compared the equipment corrected productivity information contained in the reclamation cost estimate with that of the CAT Handbook. The productivity factors appear consistent with this industry –wide accepted publication. The .75 average operator is used only in calculating the corrected productivity factor for a bulldozer.

GBMW Comment 40: The reclamation cost estimate should include an allowance (60% addition to estimated costs are recommended) for additional application of seed, fertilizer, and for weed control measures.

Response: Please see response to comment number 10.